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IMPROVING MANAGEMENT IN AGRICULTURAL DEVELOPMENT

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IMPROVING MANAGEMENT IN AGRICULTURAL DEVELOPMENT

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1. The rapid improvement in agricultural development requires improvements in the application of human intelligence as well as improvements in machinery, materials and technical methods. In government planning the application of human intelligence is called policy making, and in the regular work of government, administration; in business and farming these responsibilities are divided among management, supervision and labor. The managerial aspects - making and implementing decisions - are important in each case. In a less developed country improvement in management is fully as important as additions to capital and technology. In fact, if policy is to be wise and capital resources are to be used well, improved management is a prerequisite. That is the theme of this paper.

2. The word management is used here to include the responsibilities of all those who are in control of resources and must decide how, when, where and for what purpose they are to be used. In agriculture operating farmers are by far the most numerous managers but the category also includes policy makers, administrators, directors of agricultural research and education, the managers of service institutions and others. Their task is to make the most of the existing situation in a way that builds toward the future. In less developed countries that have initiated progressive programs, improvements in management can bring about new combinations of resources as well as make more effective use of old resources. If management is improved at the various levels, it will be a powerful factor in getting the growth process in motion, one consequence of which will be more agricultural output and income.

3. No attempt will be made in this paper to cover the whole field of agricultural development. Primary attention will be given to problems at the farm level where, in a less developed society, the greatest difficulty is encountered in getting the growth process in motion. The necessary role that added capital and technology must play is not overlooked, but we shall not dwell on it.

Changed Conditions That Affect Development

4. The less developed countries of today face conditions that are sharply different from those of earlier years when some of the now-developed nations were getting their start. Three of these differences seem especially important.

5. One is the phenomenon of national "social awakening". In the past, for example, relatively few people concerned themselves with the over-all process of development. For most people immediate results were what counted. Today, however, many people want to have their say about the process itself. Popular expectations of immediate gains on the one hand, and a well planned and sustained policy of frugality in resource use on the other, are not easily harmonized.

6. A second difference is that almost every country now undertaking economic development finds itself in the midst of a population explosion even before it gets development under way. In earlier times, this was not the case. A less developed country must run fast indeed today, just to hold its own in per-capita income; it must run twice as fast to make any real progress. The rate of population growth will influence policy for the agricultural sector. If growth is rapid, there is little

hope that a less developed nation can move fast enough in its non-farm sector to absorb some of the people employed in agriculture. A country that can use family planning to guide its population growth will have a real advantage. But accomplishing this seems some distance away, even where strenuous educational programs are carried on.

7. A third condition that affects development is the opportunity to export. Most advisers urge less developed countries to expand agriculture partly in the hope of exporting produce to earn more foreign exchange for aiding total development. However, in the present decade, most agricultural export markets are growing slowly if at all. Therefore, if a large number of countries substantially expand their agricultural exports, the price and income drop that would result as larger supplies met an inelastic market demand would bring disaster to one and all. Large increases in agricultural exports is an opportunity for the few, not the many.

Agricultural Planning More Difficult

8. How then can the less developed country best face these and other difficult and complex problems? National economic planning is generally accepted as the proper response. The state must be responsible both for initiating the over-all plan and seeing that it is carried out. India, especially, is demonstrating that such planning can be done without curtailing the democratic political process or personal freedom.

9. Over-all agricultural planning is more difficult to carry out successfully than industrial planning. A variety of approaches is required, depending on the part of agricultural development that is being planned. In particular, there are difficulties in understanding the relation of government to farmers in effective development.

10. It is one thing, for example, for the government to plan for large scale capital investments to expand the agricultural land base. It is quite another to find a way to make the agricultural system increasingly productive at the farm level. An increase in productivity of individual farms does not occur unless there are changed actions on the part of the farmers themselves. Another example is the matter of doing something constructive about the highly variable seasonal farm prices so common in less developed countries. Before harvest, when farmers have little to sell the prices are high, and when the new harvest begins to flow to market the price drops to uneconomic levels. The solution to this problem may involve governmental action as well as the introduction of new approaches by the farmer. Thus it is seen that there are various types of problems and each will require a different approach to have a reasonable chance of being successfully resolved. Yet over-all agricultural planning must harmonize and integrate these several approaches into a single national effort.

11. Those who plan must distinguish between efforts that lift production from one plateau to another and efforts which make for continuous growth. In old, settled countries with a traditional agriculture the level of production depends mainly on natural factors of soil and climate and "the pool of common knowledge" possessed by its farmers. If, to this situation, the government adds large irrigation, drainage or land clearing projects, the effect is to expand the land base but not materially widen or deepen the pool of common knowledge. Production moves up to a new plateau. But a growth process has not been set in motion.

Requirements for an Effective Program

12. The agricultural growth process can get under way only if the forces of change that make use of modern knowledge are brought to bear simultaneously and continuously on all parts of the production process. Since the farmer himself is the central figure in this process (although by no means the only one), the forces of change must be brought to bear on him in a way that will encourage acceptance and use instead of rejection. Massive programs of government action aimed at influencing the farmer frequently fail because, among all the farmers, there is as much build-up in resistance as there is increase in acceptance. The human development aspect of direct governmental efforts often turns sour.

13. In a less developed country with limited agricultural resources the program for change must be concentrated, not diffused through the entire agricultural sector. There seems to be no way to move a country's whole agriculture forward except at a modest pace, but only a rapid pace will set the progressive growth process in motion. Therefore, the effort must be concentrated in selected locations, their number and size depending on the size of the effort that can be organized and implemented.

14. Other rural areas, however, should not be neglected; much that is useful can be done. There is a need for social awakening, and the building of social overhead, and helping people in certain kinds of self-development should be undertaken depending on what seems most logical and what resources are available. Wise planning will see to it that these efforts lead in the direction of agricultural development as much as possible.

What Help From Human Development

15. Everyone knows and accepts the fact that capital and technology make a major contribution to modern production methods whether in agriculture or elsewhere. But what about the contribution of the human factor, especially that of management? Too often, it gets little consideration.

16. The gains from improved management have been studied most widely in connection with farm operators although studies exist for other agricultural fields as well. The farming studies illustrate the point. Wherever a homogeneous group of farms operating under similar conditions are studied, wide differences in output and income are always found even though all the farmers seem to use similar tools and the same amounts of materials and labor. Usually the different results can be attributed mainly to differences in the contribution of the farmer as manager and worker, a conclusion that seems valid.

17. When the causes behind these differences in the margin of output over input are examined, they are found to include some or all of the following:

(a) Differences in the desire to use means to attain specific ends and therefore greater effort on the part of the farmer as manager to gain control over a more effective set of means to obtain the ends in view.

(b) Differences in the effort used to determine what is most important in the immediate tasks at hand so that the manager's limited time and energy can be economized and put to its most productive use.

(c) Differences in the effort put into long term planning. The effective ones bring together more technical and organizational information and analyze it more fully, analyze past accomplishment as a guide to future effort, appraise risks more carefully and integrate the various elements into the final plan more accurately.

(d) Differences in the supervision of the plan in operation with greater attention to the details which really count.

18. These differences in human endeavor which influence the level of output and increase efficiency in resources are, of course, important all through society and not in the farming sector alone. The fact that these abilities can be developed and improved is the important point here.

19. The summing of all conventional inputs in any part of a more developed economy fails by a considerable margin to account for the level of output actually achieved. In the more developed countries, this margin of output over conventional inputs has been widening. The cause for the margin is found in the contribution of the human factor and in the fact that improvements in human abilities are rising faster than inputs of other kinds. It follows that planned improvements in human factor should have more attention.

20. The capabilities of labor are a produced means of production. Education both formal and informal, on-the-job training and health services are important in improving human capability. This is illustrated by the program of education in rural Japan after 1880 which was a key factor in bringing about the outstanding record of growth in agricultural production on a land base that was largely fixed.

21. The process of decision making is at a minimum in any traditional agriculture. For farmers to look for new opportunities, analyse their potential usefulness

and make choices is a new responsibility that must be learned.

22. These ideas are of special importance in less developed countries. Usually the agriculture of such a country is made up of large numbers of small family-operated farms or holdings on each of which much of the output is due to human effort, both in its managerial and labor aspects. A cardinal rule for the optimum development of a less developed economy holds that low cost ways of maximizing the contribution of present resources must be found while scarce resources are allotted to highly complementary uses. In such uses, scarce resources will yield the largest return relative to their cost. In these countries people and therefore human resources are plentiful, and making people themselves more productive will fit the concept of optimizing agricultural development.

23. The remainder of this paper will discuss various problems of organizing and implementing a program intended to bring about rapid changes in farm output and get dynamic growth under way. It applies mainly to countries where farming is largely traditional, where there is pressure of population on land, where opportunities to increase the land base are limited and where a substantial total development program is under way. India's Intensive Agricultural District (Package) Program, essentially of this kind, is putting into practice most of the points discussed here (and some others as well). The human aspects of making such a program effective will have special attention since the more difficult problems arise in dealing with people rather than using improved technology.

An Impact Program

24. The reason for undertaking an impact program in a less developed country is that it is the most promising method of breaking the pattern of slow change typical of a traditional agriculture and of laying a foundation for dynamic growth. This is by no means easy to do; if it were, it would already have been accomplished. Not only must the operating program be carefully designed with this objective in mind, but it must be pressed forward with concentrated, persistent effort. Too often, dramatic results are expected too soon; agriculture does not respond this way. Unless policy makers are prepared to be patient and persistent, they will be wiser not to start.

25. Policy makers should be aware that, even in the best of circumstances, the staff recruited to carry out the program will, at the beginning, be unskilled in many aspects of their job. It could not be otherwise; skill comes with experience and there has been no previous experience of this specific kind. The need fo thorough training must be emphasized, although training never substitutes for the learning that comes from working at the job with an open mind.

26. In the selection of areas in which to launch an impact program, those with a generally uniform type of farming will be preferred. In its initial stage this program calls for concentrated effort on a few key problems. Where farming is diverse, problems will be diverse, too, and an impact program more difficult to organize. The area must also be one where substantial increases in production can be achieved without first having to deal with institutional or capital development problems in a major way. If little can be done on production until land reform is carried out or if the area has limited rainfall and a large irrigation project must first be completed, it is not a good candidate for an impact program. On the other hand, there is no merit in choosing a few favorable but unrepresentative areas where solutions will have little usefulness elsewhere.

27. Usually, low yields for major crops will be the common problem that can be dealt with most logically. In what follows the low yield will be used for illustrative purposes in discussing the approach best suited to an impact program. Sometimes an additional problem of a complementary nature can be included; for example, an intensive rat killing campaign might be carried out. Besides killing rats and thus saving grain, the campaign would call the farmer's attention to the fact that a program of action was indeed being started.

28. Farming experts point out that within a single area differences exist in resources, needs and interests among farmers even though the type of farming is similar. This is true and should not be overlooked. But in its initial phase, an

impact program must concentrate its efforts and defer giving much attention to a wider range of problems. They can come later. Making a concerted effort and working on diverse problems can only compete with each other. Key problems must have first priority.

29. The approach to farmers in this regard is crucial. An educational approach has the best change to succeed since it permits flexibility, respects diversity among farmers, and encourages individual choice-making while centering attention on a specific problem area. A rule-of-thumb approach fails because it ignores diversity and choice and implies a simple and universal prescription for solving farm production problems. Such an approach will be questioned by farmers and will prove to be inadequate in any case.

The "Package of Improved Practices" Approach

30. Where raising yields of the main crops is chosen as the opening phase of the program, those in charge need to be clear about the requirements for success. First, they must know what is involved from the farmer's viewpoint if he turns from traditional practices to progressive ones. The design of the program must help the farmer make this change as smoothly as possible; for him, it is never easy. Second, the situation external to the farmer must be improved so that it encourages him to participate. Third, the various parts of the operating program must be integrated so they reinforce rather than compete with each other.

31. One need is for clear understanding of why crop yields are low. Where this exists the essential biological requirements of the crop are not being met; thus to raise yields, more of the crop's needs must be satisfied. The technical problem is to identify the shortcomings and decide how to correct them; the economic problem is to know whether the changes are profitable; the farm management problem is to know which changes work out best for the farmer; and the program leader's problem is to know whether staff and supplies are such that the job of making the needed changes on many hundreds of farms can be undertaken.

32. We have noted already that the traditional farmer has little technical knowledge, nor is the making of decisions in any specific sense a part of his experience. Under these conditions, the use of the "Package of improved production practices" idea is a simple yet effective approach. It requires, first, that specialists develop a simple package of improved practices for each important crop. These practices must be well adapted to the area so many farmers can use them, must give dependable and profitable increases in yields and be of the kind that typical farmers can adopt successfully.

33. Within an impact area, the package of practices should be varied by the specialists to fit local conditions. However, it is not intended to be an optimum set of practices for any one individual but rather a generally dependable set that hundreds of farmers can adopt and get a substantial increase in yield. More progressive farmers may make a more skillful application of the package or even modify it out of fuller knowledge to fit their situation more accurately. But they will be the exception - the main program must center on the recommended package.

34. The program leaders should recognize that this idea will not fit every situation. There will be some farms where the practices will not give a dependable response; these should not be included. In an impact program, it will not likely be possible to cater to special needs at this stage.

The Off-The-Farm Phase

35. The point was made earlier that conditions external to the farm must be favorable if the farmer is to be successful with his part. So the necessary off-the-farm part of the impact program must be effectively organized to make sure that the favorable conditions are a reality. The essentials are three: First, to assure that the supplies called for by the package of practices are available where the farmer can get them and in ample time prior to planting his crops. Second, to see that the credit needed to finance the supplies and other production needs is available in a way that is satisfactory to the farmer. (This includes his being able to get the

credit well in advance of seasonal needs; moreover, the credit rules must fit the smaller as well as the larger farmer.) Third, to see that the size of the program being undertaken is consistent with the size and quality of staff available to carry it out. If too much is attempted, the whole project may fail. Through carefully planned, intensive training, the available staff can be helped to rise above its usual level of accomplishment.

The Simple Farm Production Plan

36. A crucial matter is to select an effective way of working with the individual farmer. The use of a simple farm production plan is the most effective way known for helping a traditional farmer to make a successful break with the past and to enlarge the break once it has been started. It succeeds because, properly conceived, it fits the farmer's natural way of thinking and doing. The process it uses is consistent with the way farmers go about making changes; therefore, it is not alien to them. Since the details of this idea are new, we shall go into them at some length.

37. This simple farm planning process has quite different purposes from the farm planning work of more developed countries although the broad objectives are similar. Its basic approach is to assure the traditionally minded farmer that he can better himself by making a simple change that is within his means. It begins by bringing to him through field demonstrations of the improved crop practices a picture of the yield increase that is readily possible on his own farm. It enlarges on this idea through village meetings and personal discussions. It identifies this improvement with his desire for a larger and better food supply for his family, with reduced hazards from weather and with increased marketings and more income from the crops he ordinarily sells.

38. The extension worker offers him a specific opportunity in a package of improved practices for his main crops. He helps him see how these fit his conditions; he clarifies the steps involved in using them. He sets before him a simple choice, the better way and his old way, and helps him make a positive decision. He does not push the farmer further than he is willing to go but encourages him to take a substantial step forward. The idea gains support because every participating farmer in his village and in the whole impact area is taking the same kind of step forward. Traditional farmers need the security that comes from doing what their fellow farmers do. Moreover, the farm plan provides a link between the farmer and the extension worker, something seldom found in a less developed country, a link that can build increased confidence in the soundness of modern farming over time.

39. The farm planning pro forma should be designed to help the farmer with his decision making; it must be brief and logical. Basically, it consists of two parts, a "situation" section and a new farm plan. The situation section lists information about the farm, the farmer and his family, his operating resources, the crops he has been growing and their production, the practices he has been using, special problems peculiar to his farm. Two pages should suffice. The new farm plan has five brief parts: First, an educational section to provide a review of the package of practices, including the additional gain and added costs from using the package under his own conditions. Next, a place for setting down his crop plan for the new year and the production expected; it must reflect what the farmer is willing to do. If he chooses to apply the practices on part rather than all his acreage, the plan will show this. Third, a buying list of the supplies he will need. Fourth, an identification of the credit needed to finance the plan - amount, source and how it will be repaid. Lastly, a brief summary of what he will have to sell and the expenses he has to meet. If livestock or other sources of income are important, a place will be found for this. Four pages for the new plan should do.

40. The farmer will need a copy of his plan, perhaps in simplified form, whether he can read it or not. It will give him a feeling that he is doing something important. One copy will be needed for obtaining the credit and supplies; later it will be kept by the extension worker as a guide in counselling the farmer.

41. This farm planning idea, being progressive in concept, picks up each new

season where it left off the last one. It will help each farmer to identify his successful accomplishments, review shortcomings and their causes, consider new opportunities and fit those selected to his improving situation. Being flexible, farm planning can advance as rapidly as the farmer masters each step of progress. Later on, as the program advances, it can incorporate more advanced practices, consider a better selection of crops or consider new enterprises.

42. The program will gain in breadth and depth of knowledge about farming if a record of performance (farm record) is obtained from representative farmers on the various sizes of farms. Such farm records will provide needed factual results from farming operations for strengthening the farm planning work as well as be useful to administrators and policy makers as indications of what is being accomplished.

About The Small Farm

43. Since less developed countries contain many small farms, let us ask how the small farm might be related to this program. For purposes here, the class of small farm will include those whose economic viability is being questioned in a less developed country. Although some countries try to define this in terms of acreage, obviously the definition is not satisfactory; land varies greatly in the type of crops for which it is suitable and in the yields secured. On the whole, small farms can be placed in three broad categories:

44. (a) One group, probably the largest, includes those farms which will prove to be economically viable once their farming is made modern and up-to-date. Yields can often be doubled or more in a reasonable length of time and more intensity of other kinds can be introduced. In this group, the fault is not so much that the farms are small as that neither the farm nor the farmer is productive under prevailing conditions. The solution is to help them become productive by devising a program that fits their needs. The program already discussed is basically useful although some special adjustments likely will be needed.

45. (b) A second group includes farms and farmers that otherwise might fall in group one but are suffering from some disability which the farmer cannot remove through his own efforts. There is a wide range of these. Examples include: the farm family in poor health; the farmer of low mentality; farms where the produce must be divided with a landlord (small farms can hardly succeed except under full ownership); farms that lack needed irrigation, drainage or soil conservation which can only be provided through large projects; farms located in areas of acute social unrest. The solutions of some of these problems is reasonably within the means of government in a less developed country; others are not. Some are clearly welfare cases. The program discussed above is not appropriate for these farmers.

46. (c) The residual group includes the tiny farms which, even in the most favorable situation, will not support a family in an acceptable manner. Where dependable off-farm employment is available, these farms can provide family homes where part of the family food supply can be produced. In the present state of non-farm development in most less developed countries, not many such farmers can find dependable off-farm jobs. If not, basically they are welfare cases.

47. Before a logical small farm program can be undertaken a careful, informed, unprejudiced analysis must be made of the situation. To say that all small farms are economically not viable is patently erroneous; to say that all can be made viable with adequate programs is equally in error. Nor, at the stage before modern productive methods are brought in and both the farm people and the land given opportunity to develop, is it easy to tell which farmers and farms will prove to be viable and which ones not. But this is no reason for not setting forth to find out and set policy accordingly.

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